What Is Claimed Is:

1. A method of preventing or inhibiting restenosis in a patient in need thereof, comprising implanting an NO-releasing medical device into said patient, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

2. A method of restoring vascular function in a patient in need thereof, comprising implanting an NO-releasing medical device into said patient, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

3. A method of preventing or inhibiting coronary artery disease, cardiac ischemia, or congestive heart failure in a patient, comprising implanting an NO-releasing medical device into said patient, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

4. A method of administering NO to the vascular tissue of a human, comprising contacting said vascular tissue with a medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

5. The method according to claim 4, wherein said nitric oxide is associated with said polyurea network as a functional group selected from N_2O_2 or $N_2O_2^-$.

6. The method according to claim 4, wherein said nitric oxide-releasing functional group is covalently attached to said polyurea network.

7. The method according to claim 6, wherein said nitric oxide-releasing functional group is covalently attached to a nitrogen atom.

8. The method according to claim 7, wherein said covalent bond comprises $X\text{-}N_2O_2$ or $X\text{-}N_2O_2^-$, wherein X is a primary amine, a secondary amine, a polyamine or a derivative thereof.

9. A method of restoring normal levels of NO to the vascular tissue of a human following a procedure selected from the group consisting of balloon angioplasty, PCTA (percutaneous translumenal coronary angioplasty) and CABG (coronary artery bypass graft),

comprising inserting a medical device into said human during said procedure, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

10. A method of treating a human with a condition selected from the group consisting of hypertension, atherosclerosis, restenosis, tissue ischemia, coronary artery disease, cardiac ischemia, congestive heart failure and refractory coronary ischemic syndrome, comprising inserting an NO-releasing medical device into said human, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

11. A method of mediating the induction of angiogenesis in a patient in need thereof, comprising inserting an NO-releasing medical device into said human, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

12. A method according to claim 11, wherein said patient has been diagnosed with ischemia.

13. A method according to claim 11, wherein said medical device is inserted into said patient as part of a transmyocardial laser revascularization procedure.

14. A method of administering nitric oxide to a patient diagnosed with a disease or condition responsive to nitric oxide administration, comprising inserting an NO-releasing medical device into said patient, said medical device having a coating of:

nitric oxide associated with and releasable from a polyurea network formed from reaction on said medical device of a mixture comprising:

(a) a polyisocyanate;

(b) an amine donor;

(c) an isocyanatosilane adduct having at least one terminal isocyanate group and at least one hydrolyzable alkoxy group bonded to silicon; and optionally

(d) a polymer selected from the group consisting of a polyethylene oxide, polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene glycol, and polyacrylic acid.

15. A method according to claim 14, wherein said disease or condition is selected from restenosis, thrombosis, atherosclerosis, hypertension, myocardial ischemia, angina, intimal hyperplasia, benign prostatic hyperplasia, hypoxemia associated with Eisenmenger syndrome, ventilation/perfusion mismatch, acute respiratory distress syndrome, pulmonary infection, acute chest syndrome of sickle cell disease, Raynard's phenomenon in scleroderma, and bronchoconstriction.